

Chel

MEET

PRE-APPENDICE
ING ON CAU

By J. F.

We are told that appen
 of the surgeon. T
 He says in effect, "I sup
 what became of the
 fight then." So
 a similar opinion.
 In many cases operatio
 and that in othe
 should not ha
 of truth in a
 creased number of cas
 called by a differen
 recovery without oper
 With regard to the in
 at similar instances of
 at a peridicitis is subje
 tions of the mucous a
 indeed, highly proba
 tary a large num
 tain proportion
 diagnosis. Wh
 ally made i
 have been sa
 have been, a very la
 fatal would in
 of fatal cases rec



10.

Chelsea Clinical Society.

MEETING, 21ST FEBRUARY, 1905.

"PRE-APPENDICECTOMY APPENDICITIS: ITS BEARING ON CAUSATION AND TREATMENT."

By J. FOSTER PALMER, M.R.C.S.

WE are told that appendicitis is largely on the increase. That is the view of the surgeon. The man in the street has a different version. He says, in effect, "I suppose it is some old disease under a new name; but what became of the cases when you did not operate? They got on all right then." Some physicians, too, hold, though in a modified form, a similar opinion. They think the diagnosis is often hasty, that in many cases operation is unjustifiable, that in some no disease is found, and that in others no reason is apparent why the inflammatory condition should not have subsided without it. There is a certain substratum of truth in all these suggestions. (1) There *has* been an increased number of cases during the last few years; (2) the disease *was* called by a different name; and (3) there *were*, and *are*, cases of recovery without operation.

With regard to the first of these statements, I think it will be found that similar instances of increased prevalence have occurred before, and that appendicitis is subject to a certain rise and fall like many other affections of the mucous and serous membranes. It is quite conceivable, and, indeed, highly probable, that in the forties, fifties and sixties of the late century a large number of cases recovered without operation, and that a certain proportion of the increased prevalence may be due to improved diagnosis. What is certain is that at that period the diagnosis was usually made in the *post-mortem* room. Most of these lives would now have been saved, and whatever the percentage mortality may have been, a very large number of cases, not sufficiently severe to prove fatal, would inevitably escape diagnosis altogether. The number of fatal cases recorded represents, of course, only a very small

proportion of the total number of fatal cases, while the total number of fatal cases, again, would only represent a small fraction of the cases occurring within the same limits of time. Thus, if, in the whole number of cases, mild as well as severe, the mortality was 10 per cent., the total number of fatal cases must be multiplied by ten, if 5 per cent., by twenty.

That a large number died undiagnosed there can be no doubt, and even if some cases are now operated on unnecessarily, there must still be a large proportionate saving in life as compared with the earlier period.

In the pathological museum of St. George's Hospital I find, during these decades, eleven cases, some of them doubtful as regards the appendix, but in all the cæcum is distinctly affected. In one case there is an ulceration of the appendix, which was discovered accidentally in the dissecting room. This is one of the earlier ones. In 1863 there is a very decided case of perforation of the distal end of the appendix, which contained a hard oval plug of fæces. The peritoneum was covered with pus; death was sudden from acute peritonitis. Another precisely similar case with perforation, peritonitis and fæcal accumulation occurred in 1865. The other cases, dating from 1841 to 1865, were ulcerations and extravasations in the cæcum and destruction of the ileo-cæcal valve, the appendix not being specially mentioned.*

The first case of operation I can trace is in 1848. At a meeting of the Medical Society in September of that year, Mr. Hancock, the President, related a case in which he had opened the abdomen by an incision from the spine of the ilium to the external abdominal ring: "A quantity of excessively offensive turbid serum, with fibrinous flocculi, poured out, mixed with air globules and particles of false membrane". It does not appear whether the appendix was actually removed or sloughed away of itself. Dr. Copeland, who was present, said it was the only successful case he had heard of. It does not seem to have established a precedent.†

In 1857, in the *New York Journal*, Dr. Lewis gives an account of forty-seven cases.‡ His principal conclusions seem to be that four-fifths of the cases occur in males, that in nearly half the cases the

* In the catalogue of the pathological portion of the College of Surgeons Museum I only find three cases referred to, but the Museum is, of course, essentially anatomical.

† *Lancet*, 1848, vol. ii., p. 380.

‡ When we speak of cases at this period, we refer, of course, almost exclusively, to fatal cases, as there was practically no means of diagnosing appendicitis during life, except in quite exceptional instances.

patients were less than twenty years of age, and that the hardy and robust are more frequently attacked than the pale and delicate.*

In the same volume Dr. Amyot, of Diss, in Norfolk, gives an account of two cases. In one there was a large sloughy rugged perforation. In the other the appendix was dark and gangrenous, and double its natural size. It was perforated by minute ulcers, and detached from the cæcum. In neither case did the appendix contain any foreign body. Dr. Amyot suggested that the function of the appendix was to lubricate by its secretion the contents of the cæcum when the latter was handicapped by pressure; a suggestion which had been independently made by the elder Monro.

A. Richet, of Paris, in his *Traité Pratique d'Anatomie Médico-Chirurgicale*, written, I think, in 1858, relates a case of femoral hernia, in which, on opening the sac, he found pus, intestinal fluid and gas. It contained the cæcum and appendix. He appears to have opened the appendix, and then left it, stitched to the skin, outside the wound, to drain till it got well. Its ultimate destiny he does not state. "La réduction se fit avec facilité, je conservai seulement au dehors l'extrémité de l'appendice qui avait été ouverte dans l'étendue de quelques millimètres, et, pour plus de précaution, je la maintins par un fil. Quelques jours après le malade sortait guéri, sans avoir éprouvé le plus léger accident." In the same paragraph he refers to the length of time the alimentary material is retained in the cæcum (a fact which had led some to look upon the cæcum as a second stomach, where the digestive process is repeated) as a possible reason of the frequency of inflammation about the cæcum and appendix. He regards the second stomach theory as simply ingenious, but continues: "Je me bornerai à dire que les résidus des matières alimentaires y séjournent longtemps, circonstance qui n'est certainement pas sans influence sur la fréquence des inflammations de cette portion de l'intestin et du tissu cellulaire qui l'entoure".

I remember about the same time (1857-58?) a case in a little boy, a relative of my own. Although so long ago I distinctly remember hearing an account of the illness and of the *post-mortem*, and I have no doubt that the case was one of appendicitis, and that dried currants were found in the appendix.

In Schmidt's *Jahrbücher der Gesamenten Medicin*, 1859, Dr. Bamberger records ten cases of perforation of the appendix. In six cases the lower third of the appendix was perforated. In four the whole circumference was destroyed. In two cases there were fistulæ in other parts. In six there was pyæmia. Of the ten cases, eight occurred in males, and eight in persons under thirty years of age. The cause he

* *Medical Times and Gazette*, 1857, vol. i., p. 145.

considered to be, not constipation, but the formation of concretions. His paper contains the only positive evidence I can find as to recovery from attacks of appendicitis, and this is a useful one. He says that in persons dying of other diseases traces of old inflammation of the appendix are often found.*

In the *British and Foreign Medico-Chirurgical Review* for January, 1860, Dr. Leudet gives eighteen cases of ulceration of the appendix occurring in his own practice, and considers phthisis to be the most frequent cause. In thirteen cases of perforation he also found that phthisis existed in six.†

In the *New Sydenham Society's Year Book* for the same year (1860) are also mentioned two cases of intussusception in which the entire cæcum, including the appendix, was invaginated. One was fatal. The cæcum and appendix were inflamed and gangrenous, and blocked up the ileo-cæcal aperture. In the other the cæcum and appendix sloughed off and passed by the rectum, and the patient recovered. A case of perforation of the appendix is also quoted from Schmidt's *Jahrbücher* (Drs. Traube and Munk).

In Holmes's *System of Surgery*, written in 1860, Mr. Pollock speaks, rather vaguely, of fruit stones being *apt* to become lodged in the appendix, and to be the cause of much irritation and even troublesome obstruction. At the same time he urges early operation in all cases where life is threatened by obstruction, and minimises the danger of cutting the peritoneum, which was a great bugbear among surgeons at that time.

Mr. Moore, in his clinical lectures at the Middlesex Hospital in 1864, gives a case of abscess of the appendix which was opened, letting out air and pus. After this the patient passed by the rectum a large number of currants, which were extremely offensive, and presumably in a state of decomposition. He describes six other cases, all fatal; also one of acute abscess and peritonitis, the result of a cherry stone in the appendix, and another in which a long continued faecal discharge from an opening in a greatly swelled scrotum was found to come from a perforated appendix contained in a hernia.‡

At a meeting of the Pathological Society in November, 1876, Dr. Thorowgood related a case in which the appendix had been removed by an incision in the *back*. At the same meeting Dr. Murchison stated that he had seen a case of appendicitis from an impacted plum stone, and another in which a swan-shot in the appendix had formed the

* *New Sydenham Society's Year Book of Medicine and Surgery* for 1859, p. 243.

† *Ibid.* for 1860, p. 227.

‡ *Lancet*, 1864, vol. ii., p. 512.

nucleus of a faecal concretion. Mr. Thornton also mentioned a case of a damson stone in the appendix as the exciting cause of the disease.*

This meeting took place in what may be called the transition period. I think the actual pre-appendicectomy period may be said to have closed with the sixties, but the operation was, for a time, only tentative, and can hardly have become at all general until well into the eighties. As late as 1868 or 1869 I remember a discussion in the *post-mortem* room of St. George's Hospital as to the feasibility of operation in a certain case of abdominal obstruction. The suggestion was, of course, *ex post facto*, but it was set aside as being quite outside the range of practical politics and not worth troubling about. "What operation *could* have been performed?" it was asked, and no answer was forthcoming.†

The point I especially wish to draw attention to is this, that about forty-five years ago, *i.e.*, during the last three or four years of the fifties and the first three or four years of the sixties, there must have been an increased prevalence of appendicitis of a somewhat similar character to that which is now taking place. Just about this period, as we have seen, we have an account by one man of thirty-one fatal cases occurring in his own practice. Another records ten, and another, a country practitioner, records two. A year or two earlier there is an account of forty-seven cases collected from different sources. Two or three years later Mr. Moore gives an account of others in his clinical lectures. In the works on anatomy and surgery, and the year-books, there is distinct reference to cases of the same character; while the two most typical cases in the museum of St. George's Hospital may be referred to the same period.

After this, for a time, the appendix appears, so far as any records tell us, to be practically lost sight of, while before this period the accounts are equally scanty.

The number of fatal cases then recorded would, it is only reasonable to believe, have been but a small selection out of a far larger number. These happened to be recorded, but a very considerable number of other cases must have been left unrecorded. The proportion of practitioners who record their cases to those who do not is very small indeed. Then, again, it is hardly conceivable that all cases (or even any very large proportion of them) were fatal. We have evidence of recovery, even from severe lesions, in the dissecting-room case at St. George's Hospital and in those referred to by Bamberger. There must have

* *Lancet*, 1876, vol. ii., p. 751.

† In the third edition of Bryant's *Practice of Surgery*, published in 1879, appendicitis is not even mentioned. Enterotomy (Nélaton's operation) is the only possible hint of future appendicectomy.

been, therefore, in order to produce the above record in fatal cases, a very large number indeed of cases that were not fatal, besides many fatal but unrecorded. I think, therefore, that we may be justified, instead of looking for mechanical causes alone, to consider appendicitis as a disease which comes and goes. Influenza came among us and left us, returning again after forty years. Appendicitis seems to have returned after a shorter period, accompanied by improved methods of diagnosis and treatment.

I have no cut and dried theory to offer in explanation. I am only stating the facts. They seem suggestive of microbes and epidemic influences. I would by no means deny the importance of mechanical, accidental or dietetic causes. (Of these the chronic irritation caused by the daily use of aperients is, in the opinion of some surgeons, one of the most fruitful. When these are in the form of mineral waters there is, perhaps, an additional source of irritation in the accumulation of insoluble deposits either in the cæcum or appendix.) I only suggest that they may not be all-in-all sufficient as ætiological factors. Their importance may consist in the facilities they offer to the cultivation of bacteria. May it not be possible that the prevalence of appendicitis is due in some degree to cyclical influences, and not entirely to personal idiosyncrasies or casual individual disturbances?

With regard to modern treatment any denial of its great advantages can hardly be taken seriously. Even if we admit that the number of operations is in excess of the actual necessity for them, we cannot deny its life-saving results when we look back on the casual, blind, uncertain treatment and *post-mortem* diagnosis of the forties, fifties and sixties.

DISCUSSION ON MR. FOSTER PALMER'S PAPER.

The President said that the Society was much indebted to Dr. Foster Palmer for his interesting paper, which gave much food for thought and opportunity for discussion. Although he was of opinion that this complaint was more common than previously, yet a fallacious appearance of greater frequency was caused by the number of slight cases which were nowadays submitted to operation, and which were formerly let alone. No one who had seen many operations of this kind could, he thought, fail to be struck by the variance so often observed between the slight pathological lesion found, perhaps only a slight thickening without ulceration or adhesions, and the severity of the clinical symptoms.

In comparison with the case mentioned by Dr. Foster Palmer, where pus and débris were found in a hernial sac, he remembered the case of a gentleman who was the subject of a large scrotal hernia,

and who was seized with pains and other symptoms suggestive of strangulation; the next day, however, the whole scrotum became intensely inflamed and œdematous. What had happened was this, that an appendicial abscess had burst into the peritoneal cavity, and the pus had found its way into the sac of the hernia. With regard to the suggestion that we were at the present time passing through a wave of appendicitis, he recalled a remark made to him by one of the staff of St. George's Hospital to the effect that now we had so many more cases of appendicitis, true lobar croupous pneumonia had become correspondingly much rarer.

Mr. Wallis asked a question as to the composition of the insoluble deposits said to accumulate in the intestines from the frequent use of mineral waters.

Mr. Dauber said they had listened with great interest to a most careful, instructive and indeed learned paper, giving a historical review of the advent and progress of the medical and surgical treatment of appendicitis during the past sixty years. He thought the Society was much indebted to Dr. Foster Palmer for the pains and labour he had bestowed on its compilation. He was, however, not quite in agreement with Dr. Foster Palmer in considering that there were probably cyclical waves of appendicitis, as there were undoubtedly of influenza. He considered that this theory would argue a certain amount of infectivity and contagion in appendicitis, and he did not think that the author of the paper had adduced any evidence in support of this contention. The apparently increased prevalence of appendicitis at the present time as contrasted with that of fifty years ago he himself would be inclined to attribute rather to the increased records and more accurate investigations of our own times. There were undoubtedly waves of religious and other emotional feelings which passed over nations from time to time, and similarly he thought there were waves of medical zeal. Surely never before had there been such intense interest taken in all medical and surgical subjects as at the present time. He considered they were at the very summit of such a wave of medical enthusiasm in the present day. There were numbers of men nowadays with wealth and leisure who were able to devote themselves to scientific research in a manner that had never been possible in the past when men practised medicine mainly as a means of livelihood, though he wished this remark to be considered as relative and not absolute. He was not quite certain whether Dr. Foster Palmer was a *laudator temporis acti* and depreciated operative interference to a certain extent. For his own part he thought the treatment of appendicitis owes much more to surgery than to medicine. His own practice was this: whenever he found a patient to be suffering from a clear and definite attack of appendicitis with fever,

marked tenderness in the right iliac fossa, he endeavoured by medical measures to tide over the acute attack and then in ten or twelve days' time, when the acute stage had subsided, he operated or advised operation, but if at the onset the symptoms were not ameliorated by medical means, then after waiting two or three days he advised operation without further delay. Some two years ago he had attended the International Surgical Congress at Brussels when appendicitis was one of the subjects under discussion, and he observed then that there was a complete unanimity of opinion that it was preferable to operate *à froid* during the quiescent stage rather than *à chaud* during the acute attack, but often he considered it unsafe to await the quiescent period, which indeed might never arrive. His practice was to urge operation after a single well-marked and definite attack of appendicitis. He had never yet had reason to regret this advice. In conclusion, he wished to thank Dr. Foster Palmer again for his interesting paper, which furnished so much food for reflection and comment.

Mr. Foster Palmer, in replying, thanked the President for the very striking and unexpected confirmation of his view of the causation of the disease by his reference to the apparent alternation which had been observed between appendicitis and lobar pneumonia. This fact strongly supported his suggestion of periodicity. In reply to Mr. Wallis he said he believed that practically all aperient mineral waters contained some soluble salt of calcium, which was liable to be converted into an insoluble carbonate. To keep up an irritation of the mucous membrane or form the nucleus of a more or less solid faecal concretion, it need not necessarily be present in bulk. A very small amount would be sufficient to start it. He only suggested that it might possibly form the basis of the concretions sometimes found; still he considered it a proximate cause only. Dr. Dauber appeared to consider that the cyclical theory of causation necessarily involved infectivity and contagion. He could not by any means consider this a *sequitur*. Surely there is such a thing as endemicity distinct from epidemicity? And are not local influences liable to extend and vary? May not even epidemics take place without infection? He could not undertake to answer the question in the affirmative, but we had epidemics both of plague and cholera at a time when the infectivity of both was positively denied. But the idea of contagion is not necessarily excluded. We do not hear of operators taking the disease, it is true, but with the elaborate antiseptic and aseptic precautions now taken by surgeons we should hardly expect it. The case is not parallel to that of physicians occasionally falling victims to tubercle, as consumption hospitals are simply hotbeds of tubercle, and similar precautions are impossible. There could be no possible comparison, for instance,

between the infecting capacity of one small appendix and two large lungs constantly exhaling microbes. That the disease, too, is *sometimes* communicable is positively demonstrated by the fact that a considerable proportion of the cases which occurred about forty-five years ago were found on *post-mortem* examination to be of tubercular origin. In the present day, too, several of the more severe cases are undoubtedly due to the same cause, but their incidence is less striking on account of the large number of milder cases which are now examined after operation. Formerly it was only the fatal cases which were examined at all. He would submit that Dr. Dauber's statement as to the increased records and medical zeal and enthusiasm of the present day only multiplied tenfold the evidence in favour of his (the speaker's) contention. It implied a far larger number of unrecorded cases at the earlier period than he had allowed for. He thought he had shown by his concluding remarks that he was strongly in favour of the modern operative treatment. He quite agreed with Dr. Dauber as to the importance of operating in the quiescent stage, although he had had a set-back to this opinion in two cases which occurred in his practice a year or two ago. One, owing to some delay in being taken to the hospital, was almost *in extremis* before being operated on, and recovered. The other, a young man who had had several mild attacks, went home into the country, and was there operated on when in perfect health, and died. He had since, however, seen cases which convinced him of the advantage of operation in the quiescent stage. In one, in which no symptoms had occurred for two or three months, the appendix was almost severed by tubercular ulceration, and the orifice apparently patent. The operation no doubt checked the further spread of the disease, which had, in this case, clearly commenced in the appendix, as there were no symptoms of tubercle elsewhere.

The President here made a touching allusion to the death of Dr. Gage-Brown, who was one of the original members of the Society, and had been one of the first of its Vice-Presidents.

"DENTAL CARIES" FROM THE POINT OF VIEW OF THE GENERAL PRACTITIONER.

By C. EDWARD WALLIS, M.R.C.S., L.R.C.P., L.D.S., ASSISTANT
DENTAL SURGEON TO KING'S COLLEGE HOSPITAL, DENTAL SURGEON
TO THE VICTORIA HOSPITAL FOR CHILDREN, CHELSEA, AND FELTHAM
INDUSTRIAL SCHOOL.

I PROPOSE to give a summary of the present state of our knowledge on the subject of dental caries, the essential phenomena being demonstrated

by means of lantern slides. It is now practically agreed by all that the process is of a "chemico-parasitic" nature, beginning first with a decalcification of the affected teeth, and followed by an invasion of the decalcified dental tissue by micro-organisms.

The process of decalcification is brought about by the lactic acid fermentation of carbohydrate food, which is particularly apt to collect upon and between the teeth; those that are imperfectly calcified and which consequently may present an abnormal number of surface imperfections, are particularly prone to this affection, as also are teeth that are unduly crowded, both the recesses and the interspaces affording lodgment for acid-producing food stuffs which bring about the decalcifying process.

The next stage is that the decalcified enamel and dentine become invaded by micro-organisms, and if we examine microscopic specimens showing the dentinal tubules highly magnified we find them filled sometimes with cocci, sometimes bacilli, so that, as far as we can say at present, there is no definite specific organism which is the cause of the disease. The organisms, whether they be cocci or bacilli, produce a peptonising action upon the already decalcified areas, with the result that small cavities appear which gradually coalesce, forming larger ones until at length the crown of the affected tooth completely breaks away.

The predisposing causes of dental caries appear to be malnutrition of the mother, leading to imperfect calcification and development of the teeth of her offspring; malnutrition also of the child both in infancy and during childhood, when the temporary teeth are erupting and the permanent developing and completing their calcification. It has been pointed out that the teeth of those brought up and residing in chalky districts are better supplied with their calcium constituents than those found elsewhere.

Now what can the general practitioner do to minimise the ravages of this complaint from which practically every one in this country sooner or later suffers?

First, in addition to attending to the general health of the mother, we must see that her diet contains a sufficiency of calcium salts to enable the teeth and bones of her child to be properly calcified. When the child is born we must ensure that the child be suckled by its mother, or at any rate by human milk, as investigations made by Dr. Kingston Barlow have shown that the teeth of infants suckled by their mothers are less prone to caries than those brought up upon cow's milk and its many derivatives.

The importance of giving the infant at an early period crusts to gnaw at and such hard substances has of late been much insisted upon as leading not only to the proper eruption of the teeth, but also to an

